## **SIEMENS**

Product data sheet 3RT2038-1AB00



CONTACTOR,AC3:37KW/400V, 1NO+1NC, 24V AC 50HZ, 3-POLE, SIZE S2, SCREW TERMINAL

General technical data:		
product brand name		SIRIUS
Size of contactor		S2
Product expansion		
Auxiliary switch		Yes
function module for communication		No
Protection class IP / on the front		IP20
Degree of pollution		3
Installation altitude / at height above sea level / maximum	m	2,000
Ambient temperature		
during storage	°C	-55 +80
during operation	°C	-25 +60
Surge voltage resistance / Rated value	kV	6
Insulation voltage / Rated value	V	690
maximum permissible voltage for safe isolation / between coil and main contacts / acc. to EN 60947-1	V	400
Mechanical service life (switching cycles)		
of the contactor / typical		10,000,000
of the contactor with added auxiliary switch block / typical		10,000,000
<ul> <li>of the contactor with added electronics-compatible auxiliary switch block / typical</li> </ul>		5,000,000

Number of NC contacts / for main contacts       0         Number of NO contacts / for main contacts       3         Connectable conductor cross-section / in main circuit
Connectable conductor cross-section / in main circuit  • at AC-1  • at 40 °C / minimum permissible mm² 35  • at 60 °C / minimum permissible mm² 35  Operating current  • at AC-1 / up to 690 V  • at ambient temperature 40 °C / Rated value A 90  • at ambient temperature 60 °C / Rated value A 80  • at AC-2 / at 400 V / Rated value A 80  • at AC-3  • at 400 V / Rated value A 80  • at 500 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 58  • at AC-4 / at 400 V / Rated value
• at AC-1  • at 40 °C / minimum permissible mm² 35  • at 60 °C / minimum permissible mm² 35  Operating current  • at AC-1 / up to 690 V  • at ambient temperature 40 °C / Rated value A 90  • at ambient temperature 60 °C / Rated value A 80  • at AC-2 / at 400 V / Rated value A 80  • at AC-3  • at 400 V / Rated value A 80  • at 500 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 80  • at 690 V / Rated value A 58  • at AC-4 / at 400 V / Rated value A 55
<ul> <li>at 40 °C / minimum permissible</li> <li>at 60 °C / minimum permissible</li> <li>mm² 35</li> </ul> Operating current <ul> <li>at AC-1 / up to 690 V</li> <li>at ambient temperature 40 °C / Rated value</li> <li>at ambient temperature 60 °C / Rated value</li> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> </ul>
<ul> <li>at 60 °C / minimum permissible</li> <li>Operating current</li> <li>at AC-1 / up to 690 V</li> <li>at ambient temperature 40 °C / Rated value</li> <li>at ambient temperature 60 °C / Rated value</li> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>at 58</li> <li>at AC-4 / at 400 V / Rated value</li> <li>at 55</li> </ul>
Operating current  • at AC-1 / up to 690 V  • at ambient temperature 40 °C / Rated value  • at ambient temperature 60 °C / Rated value  • at AC-2 / at 400 V / Rated value  • at AC-3  • at 400 V / Rated value  • at 500 V / Rated value  • at 690 V / Rated value  • at AC-4 / at 400 V / Rated value  A 58  • at AC-4 / at 400 V / Rated value  A 55
<ul> <li>at AC-1 / up to 690 V</li> <li>at ambient temperature 40 °C / Rated value</li> <li>at ambient temperature 60 °C / Rated value</li> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 58</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at ambient temperature 40 °C / Rated value</li> <li>at ambient temperature 60 °C / Rated value</li> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 58</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at ambient temperature 60 °C / Rated value</li> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 58</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at AC-2 / at 400 V / Rated value</li> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at AC-3</li> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at 400 V / Rated value</li> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
<ul> <li>at 500 V / Rated value</li> <li>at 690 V / Rated value</li> <li>at AC-4 / at 400 V / Rated value</li> <li>A 55</li> </ul>
• at 690 V / Rated value A 58 • at AC-4 / at 400 V / Rated value A 55
• at AC-4 / at 400 V / Rated value A 55
Operating current / for ≥ 200000 operating cycles / at AC-4
at 400 V / Rated value     A     30
at 690 V / Rated value     A     24
Operating current
• with 1 current path / at DC-1
• at 24 V / Rated value A 75
• at 110 V / Rated value A 4.5
• at 220 V / Rated value A 2
• at 440 V / Rated value A 0.4
• at 600 V / Rated value A 0.25
• with 2 current paths in series / at DC-1
• at 24 V / Rated value A 75
• at 110 V / Rated value A 45
• at 220 V / Rated value A 5
• at 440 V / Rated value A 1
• at 600 V / Rated value A 0.8
• with 3 current paths in series / at DC-1
• at 24 V / Rated value A 55
• at 110 V / Rated value A 45
• at 220 V / Rated value A 45
• at 440 V / Rated value A 2.9
• at 600 V / Rated value A 1.4

Operating current		
• with 1 current path / at DC-3 / at DC-5		
• at 24 V / Rated value	Α	35
• at 110 V / Rated value	Α	2.5
at 220 V / Rated value	Α	2
• at 440 V / Rated value	Α	0.1
• at 600 V / Rated value	Α	0.06
• with 2 current paths in series / at DC-3 / at DC-5		
at 24 V / Rated value	Α	55
• at 110 V / Rated value	Α	25
at 220 V / Rated value	Α	5
• at 440 V / Rated value	Α	0.27
• at 600 V / Rated value	Α	0.16
• with 3 current paths in series / at DC-3 / at DC-5		
at 24 V / Rated value	Α	55
• at 110 V / Rated value	Α	45
at 220 V / Rated value	Α	25
• at 440 V / Rated value	Α	0.6
at 600 V / Rated value	Α	0.6
Operating power		
• at AC-1 / at 230 V / Rated value	kW	34
• at AC-1 / at 400 V / Rated value	kW	59
• at AC-1 / at 690 V / Rated value	kW	102
• at AC-2		
at 400 V / Rated value	kW	37
• at AC-3		
at 230 V / Rated value	kW	22
at 400 V / Rated value	kW	37
at 500 V / Rated value	kW	37
at 690 V / Rated value	kW	45
• at AC-4		
at 400 V / Rated value	kW	30
Operating power / for ≥ 200000 operating cycles / at AC-4		
• at 400 V / Rated value	kW	15.8
• at 690 V / Rated value	kW	21.8
Thermal short-time current / restricted to 10 s	А	640
Active power loss / at AC-3 / at 400 V / for rated value of the operating current / per conductor	W	5.7
No-load switching frequency		

Operating frequency		
• at AC-1 / maximum	1/h	700
• at AC-2 / maximum	1/h	350
• at AC-3 / maximum	1/h	500
• at AC-4 / maximum	1/h	150

Control circuit/ Control:		
Type of voltage / of the control supply voltage		AC
Control supply voltage		
• with AC / at 50 Hz / Rated value	V	24
Operating range factor control supply voltage rated value / of the magnet coil		
• with AC / at 50 Hz		0.8 1.1
Apparent pick-up power / of the magnet coil / with AC		
• at 50 Hz	V·A	190
Apparent holding power / of the magnet coil / with AC		
• at 50 Hz	V·A	16
Closing delay		
• with AC	ms	10 80
Opening delay		
• with AC	ms	10 18
Arcing time	ms	10 20

Auxiliary circuit:		
Number of NC contacts / for auxiliary contacts / instantaneous contact		1
Number of NO contacts / for auxiliary contacts / instantaneous contact		1
Operating current		
• at AC-12 / maximum	Α	10
• at AC-15		
• at 230 V / Rated value	Α	10
• at 400 V / Rated value	Α	3
• at 500 V / Rated value	Α	2
• at 690 V / Rated value	Α	1
Operating current / at DC-12		
at 24 V / Rated value	Α	10
• at 48 V / Rated value	Α	6
• at 60 V / Rated value	Α	6
• at 110 V / Rated value	Α	3
• at 125 V / Rated value	Α	2

at 220 V / Rated value	Α	1
• at 440 V / Rated value	Α	0.3
• at 600 V / Rated value	Α	0.15
Operating current / at DC-13		
at 24 V / Rated value	Α	10
• at 48 V / Rated value	Α	2
• at 60 V / Rated value	Α	2
• at 110 V / Rated value	Α	1
• at 125 V / Rated value	Α	0.9
• at 220 V / Rated value	Α	0.3
at 440 V / Rated value	Α	0.14
• at 600 V / Rated value	Α	0.1
UL/CSA ratings:		
yielded mechanical performance [hp]		
for single-phase AC motor		
• at 110/120 V / Rated value	hp	5
at 230 V / Rated value	hp	15
for three-phase AC motor		
• at 200/208 V / Rated value	hp	20
• at 220/230 V / Rated value	hp	25
• at 460/480 V / Rated value	hp	50
• at 575/600 V / Rated value	hp	60
Full-load current (FLA) / for three-phase AC motor		
• at 480 V / Rated value	Α	65
• at 600 V / Rated value	Α	62
Contact rating / of the auxiliary contacts / acc. to UL		A600 / P600

Short-circuit:	
Design of the fuse link	
for short-circuit protection of the auxiliary switch / required	fuse gL/gG: 10 A

Installation/ mounting/ dimensions:			
mounting position		+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface	
Mounting type		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 50022	
Width	mm	55	
Height	mm	113.4	
Depth	mm	130	
Spacing required / with side-by-side mounting	mm	0	

Connections/ terminals:			
Design of the electrical connection			
for main current circuit		screw-type terminals	
for auxiliary and control current circuit		screw-type terminals	
Type of connectable conductor cross-section			
for main contacts			
single or multi-stranded		2x (1 35 mm²), 1x (1 50 mm²)	
finely stranded / with core end processing		2x (1 25 mm²), 1x (1 35 mm²)	
for AWG conductors / for main contacts		2x (18 2), 1x (18 1)	
Type of connectable conductor cross-section			
for auxiliary contacts			
single or multi-stranded		2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)	
<ul> <li>finely stranded / with core end processing</li> </ul>		2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)	
• for AWG conductors / for auxiliary contacts		2x (20 16), 2x (18 14)	

Safety related data:			
Proportion of dangerous failures			
• with low demand rate / acc. to SN 31920	%	40	
• with high demand rate / acc. to SN 31920	%	73	
Product function			
Mirror contact acc. to IEC 60947-4-1		Yes	
• positively driven operation acc. to IEC 60947-5-1		No	

## Certificates/ approvals:

**General Product Approval** 

other





Confirmation

## Further information:

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

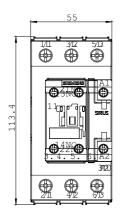
http://www.siemens.com/cax

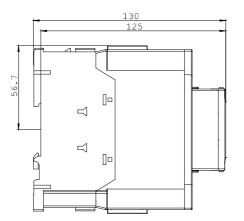
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

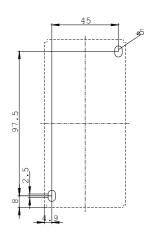
http://support.automation.siemens.com/WW/view/en/3RT2038-1AB00/all

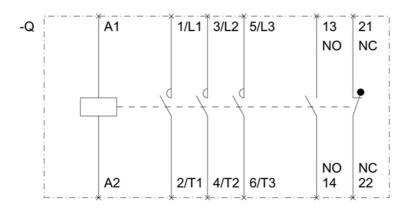
 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ ...)$ 

 $\underline{\text{http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RT2038-1AB00}$ 









last change: Dec 17, 2014